TEXTILE TECHNOLOGY DIGEST

VOLUME 12 MAY, 1955 NUMBER 5

ABSTRACTS

FIBERS A

NATURAL FIBERS A 1

Climatic conditions and cotton production

E. E. Berkley (Anderson, Clayton & Co.). *Cotton Gin and Oil Mill Press 56:* 20, 58-60 (March 26, 1955).

The influence of climate on cotton production is summarized in this paper and specific conditions at Texas points in recent seasons are analyzed in comparison with the qualities of lint produced.

Cotton fiber development study

L. E. Hessler, B. K. Power and J. D. Towery (Cotton Research, Texas Technological College). *Cotton Gin and Oil Mill Press 56:* 38-39,42 (March 12, 1955).

The authors trace the development of cotton fiber by measuring the physical properties for a complete growing season for the purpose of adding to information on processing and finishing textile yarn and fabric.

Recent progress in the breeding of cotton for quality

S. C. Harland. *J. Textile Inst. 46:* P172-P182 (February, 1955).

Cotton breeding, with emphasis on fundamental studies in cotton genetics.

Theory of fiber extraction. Chapter 2. The structure of fibrous plants

J. G. Thieme. *Textile Quart. 5:* 56-65 (January-March, 1955).

The coarseness of jute fiber-reeds and its relation to spinning quality

B. K. Chakrabarti. *Indian Textile J. 65:* 233-236 (January, 1955).

The object of these experiments was to obtain quantitative data and to ascertain the nature of the relationship between the coarseness of jute fiber reeds and the principal characters of the yarn, that is, its quality ratio and weight c.v., spun from the fiber. Tables of data and graphs.

Jute and its substitutes

Ciba Rev. No. 108: 3878-3908 (February, 1955).

The role of jute and its substitutes in world markets, p. 3878-3882, *Jute growing and fiber extraction,* p. 3884-3892, *Plant fibers alternative to jute,* p. 3893-3901, by W. Bally; and *Jute manufacturing industries,* p. 3903-3908, by R. Traupel. 17 references.

The histology and chemical composition of the wool fiber

R. L. Golden (Princeton Univ., Princeton, N. J.). *Univ. Microfilms* (Ann Arbor, Mich.), *Publ.* No. 9412, 182 pp. (microfilm, $2.28; paper enlargement, $18.20); *Dissertation Abstr. 14:* 2302-2303 (1954).

The physical properties of single wool fibers as affected by sulfur in the diet: x-ray diffraction studies of feather rachis keratin

V. E. Buhrke (Univ. of Illinois, Urbana). *Univ. Microfilms* (Ann Arbor, Mich.). *Publ.* No. 9046: 103 pp. (microfilm, $1.29; paper enlargement, $10.30); *Dissertation Abstracts 14:* 1526 (1954).

The structure of resistant membranes isolated from oxidized wool

R. D. B. Fraser and G. E. Rogers (Wool Textile Research Laboratory, Australia). *Textile Research J. 25:* 235-241 (March, 1955).

Evidence is presented of the nature of the resistant residue obtained from wool oxidized with peracetic acid and extracted with ammonia. The use of gold shadowing and phase contrast in optical microscopy reveals cortical cell membranes, nuclear membranes, nuclear remnants and resistant fibrils derived from the cortex, and the composite nature of the cuticular sheath. 14 references.

Fibrous minerals. Part 3. The production of mineral wools

Fibres 16: 81-84 (March, 1955).

Mineral wool is employed in various forms, chiefly as a thermal insulating material and to a lesser extent as a filtration medium and to improve acoustical conditions in buildings. The majority of mineral wools have a composition consisting mainly of the oxides of silicon, calcium, aluminum, magnesium and iron.

MAN-MADE FIBERS A 2

Use-development of the new fibers

A. J. Hall. *Textile Merc. (Supplement) 132:* 81-83,97 (March, 1955).

A general survey of recent progress.

Three families of fibers. Part 1.

P. S. Nagar. *Brit. Rayon and Silk J. 31:* 68 (March, 1955).

The purpose of this paper is to give a general survey of the manufacture, properties and uses of nylon, Orlon and Dacron.

Ardil in the cotton industry

P. G. Noble. *Dyer 113:* 383-387 (March 4, 1955).

Ardil blends, ingrain effects, uniform blending, stable fabrics, and crease resist finishing are discussed briefly.

Polymer progress. Part 2

J. A. Somers. *Brit. Rayon and Silk J. 31:* 64-66 (March, 1955).

Research on new copolymers containing acrylonitrile.

Tailor-made polyacrylonitrile fibers: improving dyeing properties

A. J. Hall. *Fibres 16:* 89-92,101 (March, 1955).

In this review, covering most of the current patent literature on the subject, the author describes the progress that has been made in producing polyvinyl fibers tailored by including other monomers which have the property of improving dyeability. Vinyl pyridines, mono-vinyls and styrene derivatives are mentioned, also mixtures or blends of different copolymers.

Fiber data sheets: polyvinyl chloride fibers

P. A. Koch. *Fibres 16:* 94-98 (March, 1955).

Tabulated data, including history and development, manufacture, chemistry, properties, products, nomenclature, applications, patents, etc. 86 references.

Properties of Terylene

Brit. Rayon and Silk J. 31: 50-53,72 (March, 1955).

Details are given of characteristic physical and chemical properties.

A study of the effect of high temperatures on viscose rayon in aqueous medium in the absence of air

R. W. Singleton. Master's thesis, Textile Chemistry and Dyeing, N. C. State College, Raleigh, N. C. 1954.

Man-made fiber data sheets. Part 6. Glass fibers

Modern Textiles Mag. 36: 37-40,42,87,98 (March, 1955).

YARN PRODUCTION B

Blending the newer fibers with wool: a primer for mill men

T. Friedl. *Modern Textiles Mag. 36:* 31,71-78 (March, 1955).

The aim of this article is to review the potential of blending man-made fibers with wool and to outline methods by which such blends might be developed. Advantages and difficulties are discussed.

Blending the newer fibers with wool: a primer for mill men. Part 2

T. Friedl. *Modern Textiles Mag. 36:* 74-78 (April, 1955).

Some processing characteristics through the woolen, worsted and cotton spinning systems, weaving and finishing.

Control of quality in spinning

J. D. Spencer. *J. Textile Inst. 46:* P192-P200 (February, 1955).

A general discussion of recommended practices.

Mill practice in woolcombing

F. Robertshaw. *J. Textile Inst. 46:* P183-P191 (February, 1955).

Scouring, drying, carding, backwashing, gilling, and combing are discussed.

Parks-Cramer traveling cleaners

Platts Bull. 8, No. 9: 278-281 (1955).

The Parks-Cramer room cleaner type CTR.7 and frame cleaner type CTF.5 are described and illustrated.

Report on the American system

J. H. Bolton, Jr. *Whitin Rev. 22:* 2-20 (March-April, 1955); *Can. Textile J. 72:* 55-59 (March 11, 1955).

The Whitin American system for worsted yarn is described in detail. Two typical machinery layouts are given for two widely diverse sizes and types of yarns.

OPENING, PICKING, FIBER PREPARATION B 1

A survey of blowroom (opening room) practice

F. T. Peirce, J. E. Kelly and M. H. Coleman (British Cotton Ind. Research Assoc.). *J. Textile Inst. 46:* T78-T144 (February, 1955).

This paper, which was first circulated privately to members of the British Cotton Industry Research Association, is now substantially as issued in April 1934. The results are reported of waste tests in some forty mills, in each of which a known weight of cotton, about 100 lb., of the mixing employed in the particular mill, was passed through the usual combination of opening room machinery and carded, and the droppings at every machine were separately collected, weighed and fractionated into lint, chaff, dirt, and dust. These particulars were supplemented by the results of stapling tests, and, in most cases, by the counts of the dust particles in the air of the cardroom. The survey covered a comprehensive range of blowroom combinations and types of cotton. Some of the tests provided the opportunity to compare the action of the same, or a very similar, combination on different mixings, while in others the same mixings went through different combinations. The data are therefore unique in their scope and interest, and are recorded in full in a series of tables, one for each test. 5 references.

CARDING AND COMBING B 2

Dust-free air in card rooms

Textile Wkly. 55: 812-814 (March 18, 1955).

A new high-efficiency self-contained dust extracting unit on cards is described and illustrated.

How to keep flat cards in good mechanical condition. Part 2

W. J. Langlois. *Whitin Rev. 22:* 36-41 (March-April, 1955).

This section covers the smooth operation of the machine and the handling of the stock after it has been transformed from a lap to sliver form and is deposited in the can.

The Schorsch-Mayer single-card system

R. Fahrbach. *Textil-Praxis 9, No. 10:* 911-913 (1954); *in German.* Through *Brit. Cotton Ind. Research Assoc. 35:* 160 (1955).

Constructional details and mechanism of the single-card system (German Pat. 899 019) are described. The machine is suitable for poorer quality East Indian, Chinese and Asiatic cottons, and cotton spinning and weaving waste. The yarns, according to tests on the Uster tester, show good uniformity.

Wool carding

Textile Ind. 119: 149-151 (April, 1955)

Some practical hints are given for uniformly high quality yarn.

Work study in the cardroom. Part 1

Textile Merc. 132: 501-503,520 (March 25, 1955).

Some suggestions for improved methods for the British card room are made.

DRAWING AND ROVING B 3

Analysis of certain problems of Hannah's theory of high drafting in cotton spinning by examination of single and double apron systems

L. A. B. Gangli. *Acta Tech. Acad. Sci. Hung. 9, Nos. 3/4:* 305-342 (1954): *in English.* Through *Brit. Cotton Ind. Research Assoc. 35:* 125 (1955).

The application of Miss Hannah's theory to Le Blan Roth and Casablancas type systems, particularly the latter, drafting Karnak cotton, is discussed, and the theory is criticized on the basis of experimental observations. The behavior of the roving was observed in the main drafting zone as the draft was gradually increased in steps of 0.1-0.2. At drafts below 1.2 the Z-twisted roving performed an apparent counter-clockwise rotation (Z-directed) and at its entering point into the drafting field was slightly less twisted; but in the range 1.2-1.4 the roving ceased to rotate in the Z-direction, it performed slight swinging movements around its own axis and the vibrations were extremely fast and jerky; and at drafts above 1.4 the roving slowly untwisted by clockwise rotation. It is argued, therefore, that at drafts above 1.4 the roving ceases to form an elastic system. The problem of high drafting is principally a matter of roving quality. For drafts of 30 or higher much better rovings are needed than those produced by present day techniques.

Fiber movement during gilling

P. P. Townend and T. F. Griffin (Univ. of Leeds). *(Letter to the editor). J. Textile Inst. 46:* T153-T157 (February, 1955).

New Bodden flyer aids productivity

William Bodden and Son Ltd. *Textile Wkly. 55:* 908-909 (March 25, 1955).

This patented top and presser paddle gives denser bobbins, longer length, improved quality, with greater regularity of roving. Photograph and diagrams.

The nipping depth of the fly roller

G. Buss and F. Daun. *Textil- u. Faserstofftech. 4, No. 11:* 643-645 (1954); *in German.* Through *Brit. Cotton Ind. Research Assoc. 35:* 161 (1955).

Equations are given for calculating the nipping depth of the fly-roller clothing into the card clothing of the main cylinder. Experiments have shown that, according to the nature of the material, a high nipping depth or width improves the quality of the yarn.

Nipping and drafting forces in the draw-frame

W. Stahlecker. *Textil-Praxis 9, No. 10:* 923-925 (1954); *in German.* Through *Brit. Cotton Ind. Research Assoc. 35:* 161 (1955).

The nipping power of the rollers, especially that of apron rollers, and the uniformity of the draft are considerably improved by the use of ball bearings and plastic coverings. Suitably fitted double-apron draw-frames give satisfactory results without preliminary drawing.

Improved processing in cotton spinning by high drafting

E. Simon. *Faserforsch. u. Textiltech. 5, No. 11:* 475-485 (1954); *in German.* Through *Brit. Cotton Ind. Research Assoc. 35:* 162 (1955).

The development of drafting systems is reviewed and the original forms of apron drafting are illustrated to show their subsequent changes into new constructions. Detailed descriptions are given of new machine units which improve the precision of the drafting process, and of nine new systems, most of which (especially those which give drafts of over 100) are suitable for spinning directly from the draw frame sliver (without flyer). 27 references.

T.K.F. super high-draft ring spinning frame

Kureha Spinning Co. Ltd. and Toyoda Automatic Loom Works. *Kureha Textile Rev. 4, No. 2:* 14 (1954). Through *Brit. Cotton Ind. Research Assoc. 35:* 162 (1955).

A new Japanese high-drafting system, known as the T.K.F., is announced. It features five lines of rollers, with aprons between the front and second rows and between the third and fourth rows. The total draft is from 45 to 120.

Studies on drafting of sliver. Part 2. The stationary case

M. Tabata and S. Ishikawa. *J Soc. Textile Cellulose Ind. Japan 10, No. 10:* 471-475 (1954); *in Japanese (English summary).* Through *Brit. Cotton Ind. Research Assoc. 35:* 161 (1955).

Theoretical studies were carried out on the location of floating fibers in the drafting zone, and the changes in the speed of floating fibers between fiber front-end and back nip point were determined for viscose rayon staple and cotton fibers.

Study of apron drafting. Part 4. The influence of apron band properties on their behavior during motion

T. Takizawa, M. Kobayashi and K. Imamura. *J. Soc. Textile Cellulose Ind. Japan 10, No. 10:* 466-470 (1954); *in Japanese (English summary).* Through *Brit. Cotton Ind. Research Assoc. 35:* 162 (1955).

Some slivers or rovings held between top and bottom aprons show a kind of wave motion due to irregular speed of each apron band in the main draft field of the spinning frame. This phenomenon occurs more frequently with increasing traveling speed variations and with decreasing inter-fiber friction in the slivers, and causes variations in the back half of the drafting curve.

Woolen ring frame spinning. Part 3. The relation between twist and draft

P. P. Townend and B. Jowett. *Wool Rev. 27:* 23 (March, 1955).

Previous articles showed that drafting may take place in two zones (on entry into the drafting field and just before the nip of the front rollers) and further, that there is a gradual increase in turns per inch from the back rollers to just inside the false twister tube. A final experiment was made in which the two factors were assessed at the same time. This served to confirm the previous work and at the same time established the relationship between twist and draft.

Theory of drafting

H. Breny *(Letter to the editor). J. Textile Inst. 46:* T145-T146 (February, 1955).

Theory of drafting: reply

P. F. Grishin *(Letter to the editor). J. Textile Inst. 46:* T146-T148 (February, 1955).

SPINNING, WINDING, TWISTING B 4

End breakages in worsted spinning. Part 1

P. P. Townend and L. T. Yu. *Textile Recorder 72:* 77-81,76 (March, 1955).

The first of a series of articles which will describe a study of the conversion of fibers to worsted yarns designed to suggest means for reducing the number of end breakages in spinning. 10 references.

How to reduce spinning ends down

J. E. Allen. *Textile World 105:* 153-155 (April, 1955).

Twenty-seven possible causes of end breaks are discussed and suggestions given for their correction.

Maintenance of constant yarn tension during spinning and twisting on flyer spinning frames and doublers

W. Frenzel and B. Sturm. *Faserforsch. u. Textiltech. 5, No. 11:* 467-474 (1954); *in German.* Through *Brit. Cotton Ind. Research Assoc. 35:* 163 (1955).

Means for maintaining a constant tension in yarn during spinning and doubling are reviewed and the disadvantages of the methods described are pointed out. The simplest and most suitable way appears to be the use of a bobbin drag which, as a result of the increasing weight of the bobbin on a base having a suitable friction value, automatically maintains the yarn tension at a constant value. Theoretical principles for the construction of a bobbin with own-weight drag are discussed and it is shown how the size of this bobbin can be accurately determined from yarn-tension measurements and a simple equation. A patent application has been made for the new method.

Modernization of ring-spinning machines for cotton

B. Kirschner. *Textil-Praxis 9, No. 10:* 920-923 (1954): *in German.* Through *Brit. Cotton Ind. Research Assoc. 35:* 163 (1955).

The constructional improvements described include high-draft drawing rollers; lift increase and corresponding change of cop size, ring and spindle diameters, etc.; movable thread wire; central lubrication, etc. Reference is also made to spinning costs, reconstruction investments, and amortization.

Single versus double roving

H. L. Loveless (Clemson College). *Textile Ind. 119:* 130-131 (April, 1955).

This is a report of a project undertaken under the sponsorship of the Sirrine Textile Foundation to study the relation of single-creel spinning using low draft and double creel using high draft. The savings in manufacturing cost would be small, although there would be fewer bobbins, less stock in process, and easier cleaning, by cutting draft in half and using the same size roving single creeled. However, the better quality, especially at higher twist and drafts, would be significant. Some mills now double creeling might get better quality yarn by single creeling, using the same roving and cutting draft in half. The theory set forth is that low draft is of greater importance than doubling for producing quality yarns. Tables show the effect of single and double creeling on yarn strength and uniformity.

Spinning machines adapted for artificial and synthetic textile fibers

A. Lang and G. Schlese. *Rayonne et Fibres Synthet. 10, No. 11:* 53-64 (1954); *in French.* Through *Brit. Cotton Ind. Research Assoc. 35:* 125 (1955).

Spinning machinery, including a willowing machine, modern carding machines, drawing frames and a twisting machine, are described and illustrated.

Theory and practice of flax spinning. Part 2. Machinery and equipment. Chapter 15. Winding

A. V. Pringle. *Textile Quart. 5:* 41-46 (January-March, 1955).

Thread tension in ring spinning

M. Valota. *Industrie Textile:* 780-785 (November, 1954): *in French.* Through *Brit. Cotton Ind. Research Assoc. 35:* 126 (1955).

Theoretical explanation is given of the thread tension between the rollers and the thread guide, and equations are presented for calculating the thread tension, taking into account the centrifugal force, the weight of the traveler, the diameter of the ring, the number of revolutions and the friction coefficient between traveler and ring.

Whitin spindles. Part 8. Wool spinning spindles

Whitin Rev. 22: 42-49 (March-April, 1955).

Diagrams, photographs, etc.

Woolen spinning: the right machine for the job

Platts Bull. 8, No. 9: 296-299 (1955).

Space requirements and productivity for woolen mule and ring spinning frames are compared.

YARNS B 5

The dynamic tensile mechanical properties of textile filaments and yarns

H. Tipton. *Shirley Inst. Mem. 28:* 1-40 (January, 1955).

The apparatus and procedure used in measuring the dynamic properties of twenty-three textile yarns and their dependence on static and dynamic strain are described. Measurements were made between 25 and 350 cycles per second. The specimens behaved non-linearly; in general, the dynamic Young's modulus increased with static

strain and decreased with increasing dynamic strain, while the loss-angle tangent decreased with static strain but increased with dynamic strain. With the more complex yarn structures the greater part of the variation with dynamic strain can be attributed to inter-fiber slippage. It is expedient to use equivalent linear moduli, and a solution of a non-linear differential equation is given which enables the accuracy with which the equivalent linear moduli represent the energies and stresses in the yarn to be estimated. 30 references.

Wool-rayon twist yarns for weaving

Wool Record 87: 447-448 (February 24, 1955).

Gimp, spiral and knop types.

Colored worsted mixture yarns

Wool Record 87: 487-488 (March 3, 1955).

Some observations are made on blending methods and on streakiness problems.

Moisture regain of 66 nylon continuous filament yarns

M. V. Forward and S. T. Smith (British Nylon Spinners Ltd). *(Letter to the editor). J. Textile Inst. 46:* T158-T160 (February, 1955).

Stretch yarn developments in the Clemson School of Textiles

H. M. Brown. *Bobbin and Beaker 13:* 4-6,18 (Spring, 1955).

A preliminary progress report on some methods by which stretch yarns have been made at Clemson.

Handbook of twisting. Chapter 5. Part 2. Effect of twist on dimensional changes

N. Truslow (United States Rubber Co.). *Textile Bull. 81:* 91-94 (March, 1955).

Influence of twist on textile yarns. Part 2

A. Webster. *Textile Mfr. 81:* 116-120 (March, 1955).

Mixture fabric knitted effects can be obtained by parallel winding two single threads onto packages such as small pirns or cops which insert an appreciable amount of over-end twist when unwound over-end.

Twist variations between and within bobbins of twisted yarn

F. Monfort and J. Rensonnet. *Ann. Sci. Textile Belges 2, No. 3:* 61-68 (1954); *in French.* Through *Brit. Cotton Ind. Research Assoc. 35:* 164 (1955).

By applying variance analysis to the results obtained on old and modern types of twisting machines, distinct differences were found between the variation coefficients of twist within and between bobbins, depending upon the type of spindle drive used (cylinder and cotton belt, rubber belt passing over four spindles). Various other factors are examined (spindle speed, weight of traveler, etc.) and correlation between twist and weight/unit length of single and doubled yarn is discussed.

Yarns without twist

J. H. Senior. *Modern Textiles Mag. 36:* 101-102 (April, 1955).

The uses and manufacture of bonded Tek-Ja yarns.

Fiber blending

G. V. Lund (Courtaulds (Alabama) Inc.). *(Letter to the editor). Textile Research J. 25:* 265-266 (March, 1955).

FABRIC PRODUCTION C

WARPING, SLASHING, YARN PREPARATION C 1

Size mixing

Platts Bull. 8, No. 9: 283-285 (1955).

The Hibbert automatically controlled sizing unit, with Rapisonic homogenizer, is described and illustrated.

Sources of defects in cotton sizing and their elimination

K. Ramaszeder. *Textil- u. Faserstofftech. 4, No. 11:* 654-657 (1954); *in German.* Through *Brit. Cotton Ind. Research Assoc. 35:* 165 (1955).

The construction of existing sizing machines is critically examined and the sources of defects are discussed according to whether they are attributable to the machine construction or to the drying system. Special reference is made to the effect of over-drying the yarn, and to factors, such as properties of the dividing rods, faulty arrangement of the squeezing rollers, boiling time and quantities of material, incorrect leasing of the warp, etc.

Studies on the properties of starched rayon yarn. Part 2. The physical properties of the starched rayon yarn bundle made from filaments of different deniers

I. Suzuki and H. Sanuki. *J. Soc. Textile Cellulose Ind. Japan 10, No. 10:* 481-486 (1954);

in Japanese (English summary). Through *Brit. Cotton Ind. Research Assoc. 35:* 165 (1955).

In wheat-starched yarn bundles from filaments of different deniers, flexural rigidity and Young's modulus were found to increase in proportion to the number of filaments. The effective degree of sizing also increased with increasing number of filaments.

The problem of yarn clearing

A. Reinicke. *Textil- u. Faserstofftech. 4, No. 11:* 641-642 (1954); *in German.* Through *Brit. Cotton Ind. Research Assoc. 35:* 164 (1955).

Four methods of removing neps and thick places from yarn and the clearing devices used are described and illustrated.

Modern high-speed cheese-winding machine for synthetic yarns

A. Ott. *Textilmasch. Rundschau 2, Nos. 5-7:* 118-119 (1954); *in German.* Through *Brit. Cotton Ind. Research Assoc. 35:* 164 (1955).

A new special cheese-winding machine (developed by A. Ott, Kempten, Bavara) is described. Two types are available: Pracisona 80 PF with constant winding velocity, and Pracisona 80 PS with constant number of revolutions of the spindles.

Man-made yarn process machinery development

H. Marsden. *Texture 2:* 21-27 (March, 1955).

Based on a lecture given to the South Wales Section of the Textile Institute in 1954. A general survey of problems, trends, and the future of man-made yarn processing machinery.

WEAVING C 2

Conditions for the practical use of high numbers of revolution in automatic looms

H. Maier. *Textil-Praxis 9, No. 10:* 947-950 (1954); *in German.* Through *Brit. Cotton Ind. Research Assoc. 35:* 166 (1955).

The mechanism of high-speed automatic looms (developed by Ruti) for weaving cloths of up to medium-heavy quality is described, and important factors permitting the use of high numbers of revolution are discussed.

Control of quality in weaving

W. Murphy. *J. Textile Inst. 46:* P201-P208 (February, 1955).

A general discussion of recommended practices.

Crushed weft and its causes

K. Holland. *Textil- u. Faserstofftech. 4, No. 11:* 662-665 (1954); *in German.* Through *Brit. Cotton Ind. Research Assoc. 35:* 166 (1955).

Practical observations and results of scientific investigations into the problem of crushed weft threads are summarized, and the factors responsible for the defect are divided into three groups: causes due to (1) the nature and condition of the yarn used, (2) condition and performance of the loom, and (3) working conditions (increased weft density, excessive braking, hard pick, and use of lease rods). The defect is often not noticeable and only becomes apparent in finishing or during wear of the finished article by its defective tensile strength in the weft direction.

The dynamic tension of warp yarns in weaving plain cotton goods

M. Zilahi. *Magyar Textiltech. Nos. 11-12:* 334-341 (1953); *in Hungarian.* Through *Brit. Cotton Ind. Research Assoc. 35:* 166 (1955).

A new method has been developed for measuring the tension of individual threads so as to be able to examine the effect of the height of the back rest on the tension of the two branches of asymmetrical sheds. It was proved that the dynamic yarn tension of the warp increases with the density of the weft. The phenomenon that, unexpectedly, the dynamic warp-yarn tension decreases at up to 160 r.p.m., is at its maximum at 180 r.p.m., and decreases again at over 200 r.p.m., is attributed to the loom vibrations and requires further study.

Graphs for determining weavability

J. B. Dickson. *Modern Textiles Mag. 36:* 103-106 (April, 1955).

In fabric design there is often a wide gap between theory and practice. These graphs are intended to help the fabric designer close this gap.

Jute and linen weaving. Part 2. Chapter 11. Warp let-off arrangements (continued)

T. Woodhouse and T. Milne. *Textile Quart. 5:* 47-55 (January-March, 1955).

Large shuttles or automatic looms

Skinner's Silk and Rayon Record 29: 284-287 (March, 1955).

Large shuttle versus automatic weaving is discussed in detail. Various loom refinements are briefly mentioned.

Measurements on the loom. Part 2

H. Stein and W. Rohs. *Textil-Praxis 9, No. 10:* 934-939 (1954); *in German.* Through *Brit. Cotton Ind. Research Assoc. 35:* 166 (1955).

Warp-tension measurements and stroboscopic tests for determining the shuttle motion were carried out on a Lentz underpick loom (120 cm reed space) with a double-box shuttle change on one side of the loom and a fixed reed (at 118 p.p.m.), using cotton yarn Nm 34/2 for the warp and Nm 20 as weft. The electronic measuring devices used, together with an oscillograph for recording the course of the individual phases of the loom motion, have proved very satisfactory. Any change in the loom setting that affects the warp tension can be detected in the oscillogram.

Mechanics of dobby shedding

J. Starke. *Textile Mfr. 81:* 127-129,133 (March, 1955).

The dobby is capable of controlling up to twenty-four staves but most of them are made with sixteen lifting jacks and a very extensive range of patterns can be woven when use is made of mixed drafting. Diagrams.

Mill efficiency on print cloth and corduroy

R. B. Pressley. *Textile World 105:* 112-113 (April, 1955).

To find out some of the differences and similarities of mill operations on print cloth and corduroy, Textile World surveyed six well-known mills. Data are given for each mill for loom efficiency, jobloads, etc.

New jacquard card presentation motion

Tatlock Engineering Co. Ltd. *Textile Recorder 72:* 94 (March, 1955).

This type of card feed and presentation motion is especially suitable for fine pitch work and does away with the cylinder mechanism.

A practical idea for rapidly controlling the warp beam brakes on the Crompton Knowles loom

L. Somonier. *Industrie Textile:* 803-804 (November, 1954); *in French.* Through *Brit. Cotton Ind. Research Assoc. 35:* 129 (1955).

A small improvement in the construction of the oil-brake piston on the Crompton Knowles loom is reported, which consists in fitting a needle-valve, with a tight spring at its base, into the piston. By means of this valve, the action of the brake on the oscillating movements of the warp-beam cylinder can be altered even when the loom is running.

A special pick-pick weaving method

J. P. Simon. *Industrie Textile:* 805-808 (November, 1954); *in French.* Through *Brit. Cotton Ind. Research Assoc. 35:* 129 (1955).

A new automatic weaving method, developed by the Société Lancex, is described in which each shuttle weaves alternately one single pick in a cycle of movements which can be repeated indefinitely. For this purpose, devices are necessary for selecting the color and for putting the weft-stop motion out of action during the blank movement (without pick of the shuttle or with an empty shuttle). In addition, the feeler must be disengaged when the first box on the right side is empty (during the fourth, fifth and sixth movement) and, finally, the picking shaft must be under the box during the second and eighth movement and disengaged during the interval between the ninth and tenth movements. The devices and mechanism are described and illustrated.

The technique of blanket weaving

Textilmeisterschule Bocholt. *Z. ges. Textil-Ind. 56, No. 17:* 1059-1061; *No. 18:* 1122-1128; *No. 19:* 1166-1172; *No.20:* 1225-1230; *No. 23:* 1429-1436; *No. 24:* 1493-1496 (1954); *in German.* Through *Brit. Cotton Ind. Research Assoc. 35:* 130 (1955).

Various types of blankets are enumerated, different weaves are described in detail, and it is shown how these weaves are combined to produce a patterned blanket, how calculations are made, and how the point paper drafts and cards for Jacquard blankets are prepared in a simple manner.

Weaving terminology (What is it called?)

A. Hannover. *Tidsskr. Textiltek. 12, No. 11:* 243 (1954); *in Danish.* Through *Brit. Cotton Ind. Research Assoc. 35:* 154 (1955).

Sixteen terms referring to weaving are given in Danish, English, German and French, together with a drawing on which the individual loom parts are numbered correspondingly.

KNITTING C 3

Are your proportioned styles really proportioned?

J. C. Coburt. *Hosiery Underwear Rev. 38:* 37,62-63 (April, 1955).

Scientific proportioning of full-fashioned hosiery is discussed. A diagram shows dimensions for small, medium, and tall proportions of hosiery.

An engineering approach to jersey fabric construction

W. E. Shinn (North Carolina State College). *Textile Research J. 25:* 270-277 (March, 1955).

The author's purpose in this paper is to treat knitting not as an art but as a science. This discussion of the engineering approach is concerned with some of the fundamental laws of knitting: with measurement; with calculations; and with prediction. It is limited to the simplest of all knit structures, the jersey or plain fabric. 3 references.

Fault prevention in warp knitting

F. C. Brown (British Celanese Ltd). *Textile Merc. 132:* 506-508 (March 25, 1955).

Machine maintenance safeguards are itemized and processing method suggestions listed.

Modern knitting production

J. H. Blore. *Textile World 105:* 121-133 (April, 1955).

Written standards make more first-quality hosiery, p. 122-123; *Rebuilt machines give 90% knitting efficiency,* p. 124-125; *Fixer-incentive system cuts bad work 35%,* p. 126-127; *How a tricot mill tackled warping problems,* by E. Barton, p. 128-129; *Quality control is a must for 474-needle hosiery,* p. 130-131; *Better outerwear knitting with plant-dyed yarns,* p. 132-133.

Novel use for knitted Orlon

P. Li (N. C. State College, School of Textiles). *Knitter 19:* 38-39 (March, 1955).

Knitted Orlon tubings as substitutes for the principal artery of the human heart have been developed in the School of Textiles at North Carolina State College. The tubing is knitted on a necktie machine.

Warp knitting versus weaving

J. B. Lancashire. *Textile Recorder 72:* 74-76 (March, 1955).

The author describes some recent developments in warp-knitted fabrics and shows how new end-uses will mean an encroachment into traditionally woven structures.

FABRICS C 4

Effect of fabric structure on fabric properties

J. J. Brown and Ralph A. Rusca (Southern Regional Research Laboratory). *Textile Bull. 81:* 75-77 (March, 1955).

Research leading to the development of specialized fabrics for an agency of the Department of Defense is described in this paper. Requirements called for the fabrics to be highly resistant to the passage of water and air and to possess relatively high tensile and tear strength, yet to be light in weight. The effects of seven types of fabric structure on the physical properties of the fabrics are discussed.

The diffusion of water vapor through laminae with particular reference to textile fabrics

M. E. Whelan, L. E. MacHattie, A. C. Goodings and L. H. Turl (Defence Research Medical Laboratories, Toronto, Canada). *Textile Research J. 25:* 197-223 (March, 1955).

Part 1: Method of measurement, Part 2: A study of the transmission of water vapor by diffusion through perforated metal plates, Part 3: The resistance of fabrics to the passage of water vapor by diffusion. 5 references.

Crepes. Part 3. Commercial fabrics

D. C. Snowden and G. Hinchliffe. *Brit. Rayon and Silk J. 31:* 46-49 (March, 1955).

A series of 22 crepe fabrics composed wholly or partly of rayon are examined and their individual characteristics are briefly discussed. A photograph of each fabric is included.

Design in woven structure. Part 28. New weaves from old

D. C. Snowden. *Wool Rev. 27:* 22-23 (March, 1955).

Part 27 described a method of developing "new" weaves from old weaves by rearranging either the ends or the picks of standard weaves. This article goes a stage further and describes how rearrangement can be applied in both warp and weft.

Typical cloths: woolen. Part 1

S. Brierley. *Textile Mfr. 81:* 130-133 (March, 1955).

The bulk of woolen cloths are made of single yarns for ground fabric and in fancy cloths two color twists are freely used for decoration. Many fabrics are made with two-color twist for ground effects and two-ply yarns in solid colors are often used in more expensive cloths. A number of woolen fabrics are described.

Faults in woolen manufacturing. Part 2

Textile Recorder 72: 71-73 (March, 1955).

The author examines dimensional faults in finished woolen cloth and the basic causes which occur throughout processing.

Symposium on parachute textiles

J. C. McGarth, editor. U. S. Air Force. Air Research and Development Command. Wright

Air Development Center. Materials Laboratory, Wright-Patterson Air Force Base, Dayton, Ohio. July, 1954. 220 p. Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. PB 111 563. $5.50.

Papers prepared for presentation at the Air Force-Navy-Industry Symposium on Parachute Textiles, September 21-22, 1953. Contents: *Resumé of parachute requirements,* by W. A. Corry. *Problems of parachute design and their relation to textiles,* by W. P. Shepardson. *Porosity, translucency, and deformability of nylon parachute fabrics,* by A. Baker. *Textiles for parachutes in aircraft deceleration and missile recovery, by* R. W. MacCarthy. *Textiles used in free air facility parachute test program,* by D. L. Arenson. *Effects of temperature and humidity on parachute textiles,* by M. Coplan. *Effects of porosity on design and performance characteristics of parachutes,* by H. G. Heinrich. *Air permeability of parachute fabrics,* by H. W. S. Lavier. *Materials for parachutes of the future,* by W. D. Brown. *Effect of yarn and fabric structure on air permeability,* by W. Hamburger. *Effect of incorporating design data into new fabrics,* by H. J. Bickford. *Energy absorption in suspension lines,* by E. A. Grimalouski. *Braided suspension lines,* by F. W. Fraim. *Parachute harness webbings,* by J. Miller. *Development of improved strength webbings,* by G. R. Turner *Development of high tensile strength webbings,* by R. J. Neff. *Frictional forces and lubrication of textile fabrics at high sliding velocities,* by V. Lavrakas.

FINISHING AND CHEMICAL PROCESSING D

Bleaching and dyeing of jute

F. Tucci. *Ciba Rev. No. 108:* 3911-3913 (February, 1955).

Bleaching, dyeing and finishing: a survey of recent developments

A. J. Hall. *Textile Merc. (Supplement) 132:* 59-60 (March, 1955).

Control of quality in dyeing and finishing

E. Padgett. *J. Textile Inst. 46:* P209-P219 (February, 1955).

A general discussion of recommended practices.

Making and coloring felt

Dyer 113: 349-351 (March 4, 1955).

Forming a batt, hardening and fulling color effects on carpeting felts, and the stiffening liquor are discussed.

Modern finishing of cotton fabrics

G. M. Gantz (General Aniline and Film Corp.). *Can. Textile J. 72:* 55-65 (February 25, 1955).

Various steps in the wet processing of cotton fabrics are reviewed. Finishes are considered from the standpoint of effect on appearance, hand and serviceability factors. Treatments to provide resistance to abrasion, shrinkage, etc., are discussed.

Profitable use of waste materials in cotton mills

V. S. Nathan (Vasant Ind. & Eng. Works, Worli, Bombay). *Indian Textile J. 64:* 763-764 (1954). Through *Chem. Abstracts 49:* 3539 (March 10, 1955).

Recovery of bleaching, scouring, tin weighting, and mercerizing wastes is summarized.

Textiles and laundering. Part 2

E. Albinson. *Textile Merc. 132:* 413-415,421 (March 11, 1955).

An explanation for the benefit of the textile manufacturer of what occurs during a commercial laundry process.

Textiles and the laundering problem. Part 3. Some typical cleaning problems

E. Albinson. *Textile Merc. 132:* 459-461,466 (March 18, 1955).

Problems in laundering bed-linen, bleach danger to rayons, shrinkage caused by the dryer, and dyes unsuitable for laundering are discussed.

Better tire cord

F. M. Allen, Jr. *Textile Age 19:* 30-34 (March, 1955).

New electronic tire cord tensioning and gum-dipping equipment at the Gastonia, N. C. plant of Firestone Tire and Rubber Company is described and illustrated.

Nylon tire cord

R. W. Pinault. *Textile World 105:* 104-105 (April, 1955).

Stretch of nylon tire cord (called "growth" by tire men) has limited nylon in a big market: heavy-duty truck tires. To stop this stretch Firestone Textiles has developed a nylon-cord stabilizer that pre-treats and removes excess stretch at 30-60 yards per minute. The operation of the stabilizer is described briefly. Photographs.

CHEMICAL PROCESSES D 1

The preparation of partially cyanoethylated cotton with acrylonitrile

G. C. Daul, R. M. Reinhardt and J. D. Reid (Southern Regional Research Laboratory). *Textile Research J. 25:* 246-253 (March, 1955).

The preparation of partially cyanoethylated cotton with acrylonitrile in the presence of sodium hydroxide is described, including effects of changes in time, temperature, and concentration of reagents. Products with retention of the fibrous form have been obtained with degrees of substitution up to 2.7 cyanoethyl groups per anhydroglucose unit. Hydrolysis of the cyanoethyl group occurs readily under alkaline conditions and results in both cleavage and conversion to the carboxyethyl group. Maximum conversion in the latter case was 29% . 25 references.

Avitone T softener

DuPont Tech. Bull. 10: 145-147 (December, 1954).

Possesses suitable characteristics for use as a cotton fabric softener and also has proved valuable as a dye dispersing agent in the dyeing of Dacron polyester fiber and blends of Dacron and wool.

Continuous bleaching by sodium hypochlorite

R. G. Manudhane. *Indian Textile J. 65:* 228-229 (January, 1955).

A procedure is outlined for continuous bleaching using sodium hypochlorite at higher temperatures (45°C).

Linen yarn bleaching

J. K. Skelly. *Textile Quart. 5:* 32-38 (January-March, 1955).

Includes historical development, modern development, and processes of lye boiling, reeling, scalding, dipping, hydrogen peroxide treatments, sodium chlorite treatments, and optical bleaching agents.

Recent developments in the bleaching of textiles with sodium chlorite

P. Mosse. *Teintex 19, No. 11:* 811-838 (1954); *in French.* Through *Brit. Cotton Ind. Research Assoc. 35:* 135 (1955).

The properties of sodium chlorite and various processes for its use are reviewed and a method, developed and patented by the Société Rhodiaceta, is described which is based on the fact that most of the organic esters are able to decompose sodium chlorite practically without liberation of chlorine dioxide under the usual conditions of bleaching. The consumption of chlorine is low, and the process can be applied to cellulosic, artificial and synthetic fibers without taking particular precautions to prevent fiber damage. The attack of sodium chlorite on stainless steel is only mild and can be completely suppressed in presence of sodium nitrate (1-3 g/1.). The process can also be used in stripping and oxidizing of dyes. 86 references.

Measurement and control of concentration

Can. Textile J. 72: 55-57 (1955).

The case history of a mill which revamped its continuous bleaching process and added continuous desizing and acid scouring equipment with the newest instrumentation for the entire bleach range. Concentration control is the key to bleaching uniformity.

Yarn mercerizer

M. London. *Textile World 105:* 114-115,200-206 (April, 1955).

The new Butterworth yarn mercerizer at Coats & Clark is probably the longest and the best controlled in the country. Features include A.c. syncro variable-speed drive for six different sections, fully controlled dryer with moisture-control apparatus, and a modern efficient caustic-recovery system.

Quality improvement by chemical cleaning of coarse yarn products

R. Tittel. *Textil- u. Faserstofftech. 4, No. 11:* 681-682 (1954); *in German.* Through *Brit. Cotton Ind. Research Assoc. 35:* 180 (1955).

Constructional details are given of a dry-cleaning and distillation installation for cleaning blankets, traveling rugs, etc., to remove residual fat and mineral oils and to eliminate the unpleasant odor of the products, which are made mainly from waste material.

Mechanical and chemical features combined in shrinkage process

R. G. Frost. *Knitter 19:* 35-36 (March, 1955).

The Holly-Set shrinkage control process (for knit fabrics) of Holly-Knit, Inc. combines mechanical and chemical processes. It uses Tube-Tex tensionless calendering equipment and Cyana water-repellent resin finishes.

Dutch scientist reports on Avcoset

K. Trutmann. *Modern Textiles Mag. 36:* 51-52, 86 (March, 1955).

Based on a paper by Dr. Trutmann, in Dutch, in the September, 1954 issue of *Enka Breda Rayon Revue.* See *TTD 11:* 526 (1954).

Washable rayons

I. H. Welch, Jr. (American Viscose Corp.). *Am. Dyestuff Reptr. 44:* P216-P219 (March 28, 1955).

The author discusses in detail the application of the Avcoset fabric process for the stabilization of rayon fabrics. The Avcoset fabric process not only denotes durable shrinkage control, but also durable hand and durable color without the danger of chlorine retention. The use of various additives to obtain a greater range in hand and the influence of these additives on other physical properties are explained. The resistance to fibrillation offered by Avcoset is contributing measurably to the increased wear life of Avcoset garments.

Flame-proofing of fabrics

A. J. Hall. *Texture 2:* 14-16 (March, 1955).

A general review. 11 references.

Silicones in textile finishing

H. Reuther and C. Schneider. *Textil- u. Faserstofftech. 4, No. 11:* 676-679 (1954); *in German.*. Through *Brit. Cotton Ind. Research Assoc 35:* 172 (1955).

The uses of silico-organic compounds and siloxane polymers in the textile industry, particularly as water-proofing agents, are reviewed. 90 literature and patent references.

DYEING AND PRINTING D 2

Color performance of solution-dyed acetate

A. F. Tesi (Celanese Corp.). *Am. Dyestuff Reptr. 44:* P199-P201 (March 14, 1955).

Experiments have shown that, when acetate is solution-colored in the mass with good pigments, the resultant acetate fabric displays excellent (5) fastness to AATCC Wash Test #4, excellent (5) fastness to rubbing, and very good (L-6) to excellent (L-7) and maximum (L-8) light fastness. Fastness ratings for other AATCC tests are also excellent (5), such as fastness to drycleaning, perspiration, sea water, chlorinated water, and fresh water. Of great importance for acetate is excellent (5) fastness to gas fading. Solution-colored acetate has the further important advantage over uncolored bright or dull acetate of retaining its tensile strength very much better upon 275 hours exposure to bright sunlight.

Solvent-dyeing acetate

P. C. Duggan (Celanese Corp.). *Am. Dyestuff Reptr. 44:* P202 (March 14, 1955).

Cellulose acetate, which has long been dyed with mostly disperse (acetate) dyestuffs, can also be dyed by two other methods: (1) a solvent method employing an approximately 75% solution of methyl or ethyl alcohol, and (2) a solvent method employing a medium containing a mixture of organic acids with or without an addition of organic solvent and/or mineral acid. The uses, advantages, and disadvantages of these methods for convenience, fire hazard, variety of shade and resultant properties are compared with those of the conventional aqueous method for disperse (acetate) dyes.

Continuous dyeing process with Indanthrene dyes

E. Scheel. *SVF Fachorgan Textilveredlung 9, No. 11:* 550-562 (1954); *in German.* Through *Brit. Cotton Ind. Research Assoc. 35:* 135 (1955).

Basic techniques suitable for continuous dyeing with Indanthrene dyes (vat-pad-steam method, metal-bath method, pad-dyeing and steam-developing, pad-dyeing and developing in the roller vat, pad-dyeing and developing in the hot-oil bath) are discussed, their advantages and disadvantages are pointed out, and the necessary equipment is described.

Coprantine dyes which reserve acetate rayon

Ciba Rev. No. 108: 3914 (February, 1955).

Developing Coprantine dyeings with Coprantex B

Ciba Rev. No. 108: 3915-3916 (February, 1955).

Dye affinity. Part 2

A. Ludé and R. Buess. *Ann. Sci. Textile Belges 2, No. 3:* 23-52 (1954); *in French.* Through *Brit. Cotton Ind. Research Assoc. 35:* 168 (1955).

It is shown that the study of dye diffusion into rayon yarn can be utilized in the control of production uniformity. The simultaneous use of two fundamental methods (measurements of bath exhaustion and of reflectance) make it possible to evaluate the degree of draft, dyeing under tension, and the spinning rate of rayon. By applying a suitable draft during processing, the dyeing properties of the yarn can be improved. Theoretically, the methods for calculating the diffusion coefficients must be improved in order to be able to correlate quantitatively the diffusion properties of a dye with the parameters defining the yarn structure. 17 references.

Dyeing in the Burlington machine

DuPont Tech. Bull. 10: 161-165 (December, 1954).

A description of the machine and procedures for applying dyes to the various fibers are given.

Dyeing newer blends of wool with synthetics

H. Luttringhaus (Progressive Color and Chemical Co.). *Am. Dyestuff Reptr. 44:* P194-P199 (March 14, 1955).

A discussion of the latest methods for dyeing unions on binary blends of wool with silk, nylon, Vicara, Dacron, Orlon, Acrilan, and Dynel fiber, respectively. Methods are also suggested for solid shades on Vicara-nylon blends. A special feature is that many of the colors are made recognizable with Munsell notations.

Dyeing the newer synthetic fibers in blends with cellulosic fibers

W. H. Hindle (Chemstrand Corp.). *Am. Dyestuff Reptr. 44:* P191-P194 (March 14, 1955).

Although those who developed the new wholly synthetic fibers probably expected that they would be used mostly alone, the author points out that they have come to be used very largely in combinations with the older fibers. He discusses mainly the dyeing of blends of Dynel, Dacron, Orlon, and Acrilan, respectively, with viscose rayon but includes also some binary and ternary combinations involving cotton or acetate.

Forms of dyeing

Dyestuffs 41: 9-14 (March, 1955).

A general review of various forms of dyeing—staple, yarn or piece, hank or cake, jig or winch—and what factors determine the suitability of a method.

How fabric structure determines the choice of dyeing machine

B. C. M. Dorset. *Textile Mfr. 81:* 142-145 (March, 1955).

In dyeing cotton/viscose rayon fabrics, particularly those with cotton in the warp, there is more likelihood of securing equal depths of shade on the two fibers by dyeing in a winch machine than in a jig.

How to dye Acrilan sweaters

Chemstrand Corp. *Modern Textiles Mag. 36:* 68, 70, 114 (April, 1955).

Specific information prepared for dyers by Chemstrand.

How to piece dye metallic yarns

Modern Textiles Mag. 36: 54,86 (March, 1955).

A summary of the advice on dyeing fabrics containing metallic yarns made available by the leading manufacturers of these yarns.

How vat dyeing affects cotton

J. E. Sands, L. A. Fiori and J. J. Brown (Southern Regional Research Laboratory). *Textile Ind. 119:* 116-120 (April, 1955).

Vat dyed yarns are stronger than similar but undyed yarns. Higher yarn strength is produced if cotton is dyed as yarn rather than as raw stock. Lower spinning twists can be used with vat dyed stock, or shorter staple can be used to produce a given yarn strength if cotton is stock dyed. Tables of data, graphs, etc. 6 references.

An investigation of the dyeing of cotton at high temperatures

D. R. Sharma. Master's thesis, Textile Chemistry and Dyeing, N. C. State College, Raleigh, N. C. 1954.

Latyl blue 4R

DuPont Tech. Bull. 10: 147-148 (December, 1954).

New disperse dye for Dacron polyester fiber. Data are given on fastness properties.

Light fastness of direct dyeings with special reference to Sirius light dyes

H. Hansen and H. G. Buddicker-Lons. *Textil-Praxis 9, No. 10:* 958-960 (1954); *in German.* Through *Brit. Cotton Ind. Research Assoc. 35:* 168 (1955).

Examples are given to show that the different behavior of individual dyes in dye mixtures or towards textile assistants (leveling agents, water-softeners, surface-active agents) cannot be generally predicted, and that it is not possible to draw definite conclusions from the chemical constitution of the dyes. Several combinations of Sirius light dyes are given for beige, grey, brown, light yellowish-green, bluish, and red (fraise) tints, which are claimed to have excellent light-fastness.

Lusane brilliant blue B

DuPont Tech. Bull. 10: 149-153 (December, 1954).

Lusane brilliant blue B is a new dye. It can be applied to cotton and cuprammonium rayon by special dyeing and printing procedures and

yields brilliant blue shades with fastness comparable to that of vat dyes. Various processes for application are given, as well as data on fastness properties.

Man-made fibers and modern trends in wet processing: 1954 review. Section 2. Part 2. Dyeing

Brit. Rayon and Silk J. 31: 54-59 (March, 1955).

48 references.

Neovadine AN

Ciba Rev. No. 108: 3916 (February, 1955)

Used for levelling and stripping in wool garment dyeing.

New fastness ratings for direct dyes on spun rayon

DuPont Tech. Bull. 10: 166-190 (December, 1954).

New fastness ratings for the complete line of Du Pont direct dyes on spun rayon have been prepared and are presented in tabular form.

Notes on dyeing tub-fast colors. Part 6

F. O. Stone. *Textile Bull. 81:* 82-83 (March, 1955).

This article continues special notes on naphthols which should be helpful to persons interested in their application.

One-bath procedure for dyeing blends of Dacron polyester fiber and rayon

DuPont Tech. Bull. 10: 157-160 (December, 1954).

An outline of the procedure is given as well as a table of fastness ratings.

Piece goods can be dyed by warp-dyeing methods

R. W. Pinault. *Textile World 105:* 106-107, 206 (April, 1955).

Fabrics of natural and synthetic fibers are now being dyed in a closed pressure machine in lots up to 2,500 yards. The dyeing time is 3 to 4 hours and loading and unloading take only a few minutes. Losses from jig ends and torn fabrics are eliminated. A sample chamber aids in matching shades.

Wool processing here and abroad

F. G. Steiner (Ciba Co. Inc.). *Am. Dyestuff Reptr. 44:* P212-P215 (March 28, 1955).

In this paper the author points out differences in the organization and practices of wool processing here and abroad and also discusses certain phases of wool dyeing. The application of dyes to wool under pressure with circulation of liquor at not over 225°F in such a way as to minimize damage is claimed to produce better dyeings in a shorter time. A suggestion is offered for a simple method to calculate the amount of sulfuric acid for acid-dyeing metalized dyes on wool so as to avoid the great excess usually recommended. The advantages of the relatively newer neutral-dyeing metalized dyes are also pointed out.

Printing acetate with vat dyes

G. D. Sutton. *Dyestuffs 41:* 15-16 (March, 1955).

Printing acetate rayon with vat dyes using formamidine sulphinic acid (thiourea dioxide) as reducing agent.

Printing wool and the production of melange effects

J. A. Potter. *Textile Mfr. 81:* 146-147 (March, 1955).

For melange effects it is important to select dyes possessing good wet fastness properties, especially to alkaline milling, since the coloring is done prior to spinning, weaving and finishing.

Screen printing of fabrics from polyamide fibers

H. Schonefeld. *Textil- u. Faserstofftech. 4, No. 11:* 672-676 (1954); *in German.* Through *Brit. Cotton Ind. Research Assoc. 35:* 171 (1955).

Difficulties encountered in printing polyamide fabrics are discussed and methods are described for printing Perlon fabrics with substantive, copper-complex, diazo, para (containing napthol or naphthylamine radicals in the molecule), acid, chrome, acetate, and naphthol dyes. Reference is also made to discharge printing, the indirect Colloresin process, and a special technique for obtaining crimp and cloqué effects.

TESTING AND MEASUREMENT E

Additional nomographs for significance tests

Chou Hsiung Li. *ASTM Bull. No. 205:* 46-49 (April, 1955).

An expansion of nomographs previously published in the December, 1953 issue of *ASTM Bulletin.* See *TTD 10:* 1444 (1953).

German yarn and fabric testing equipment

Skinner's Silk and Rayon Record 29: 278-279

(March, 1955).

The Zweigle yarn strength tester, the Zweigle Grafotex autographic yarn evenness tester, the Schopper tensile strength tester and the Schopper-Dalén BP 30 bursting-strength tester are briefly described. A photograph of each tester is presented.

The near infra-red absorption spectra of natural and synthetic fibers

A. Elliott, W. E. Hanby and B. R. Malcolm. *Brit. J. Appl. Phys. 5, No. 11:* 377-381 (1954). Through *Brit. Cotton Ind. Research Assoc. 35:* 145 (1955).

The near infra-red region may be used to obtain spectra with polarized radiation of natural and synthetic fibers. This region has considerable experimental advantages and the spectra of poly-L-alanine, polyglycine, wool, silks, and commercial regenerated protein fibers are shown and discussed.

FIBERS E 1

Balance for rapid determination of the ginning percentage of seed cotton

R. L. N. Iyengar. *Indian Textile J. 65:* 230-232,236 (January, 1955).

The cotton breeders who are tackling the problem of increasing the yield of seed-cotton and the percentage of lint in it have to test a large number of samples for finding the ginning percentage. An instrument is needed that can give this value rapidly. This paper deals with a balance designed for this purpose.

Determination of cellulosic constituents in asbestos and asbestos-glass textile materials

C. Z. Carroll-Porczynski (British Belting and Asbestos Ltd). *J. Textile Inst. 46:* T65-T70 (February, 1955).

The common practice in the asbestos industry is to blend cotton or viscose fibers with asbestos in order to facilitate carding and spinning of the material. For routine test purposes, at both manufacturing and consumer stage, a simple method of determination of cellulosic material in asbestos textiles is required. The usual method of determination is by ignition at 800° to 810°C. The results of an analytical procedure with ignition at 370°C are described. 7 references.

Determination of crimp in textile fibers

F. Millard *(Letter to the editor). J. Textile Inst. 46:* P220 (February, 1955).

How x-ray helps on fiber research

V. W. Palen (North American Philips Co., Inc.). *Textile Age 19:* 22-26 (March, 1955).

The work of the x-ray laboratory at the research laboratories of the Celanese Corporation is described.

Identifying Arnel in fabric/fiber blends

Can. Textile J. 72: 58-59 (March 25, 1955).

Principles, procedure, and apparatus for the process are given.

A method of calculating theoretical fineness for cotton blends

E. J. Jennings and H. G. Lewis. *Textile Research J. 25:* 267-269 (March, 1955).

Fiber fineness has become a major factor in merchandising cotton and in manufacturing cotton products. Mills often specify a desired range of Micronaire readings. In processing the cotton they sometimes find that the Micronaire reading of a blend is not the arithmetic mean of the individual Micronaire readings of the bales used in the mix. In this paper an explanation of this apparent discrepancy is presented, and also a difficulty encountered in Micronairing two-sided bales is mentioned.

A qualitative analysis of the synthetic fibers

M. Lundegard and E. D. Roseberry. *Tappi 37, No. 7:* 117A-121A (1954). Through *Brit. Cotton Ind. Research Assoc. 35:* 174 (1955).

An attempt has been made to establish an easy and accurate procedure for identifying the following fibers: nylon, Dacron, Orlon, Acrilan, X-51, Dynel, Saran and polyethylene. (Dynel and X-51 were staple fibers and the others, filament fibers.) The fibers were subjected to a variety of chemical reagents at room temperature, over a steam bath, and over a direct flame. Observations are recorded in tabular form. Longitudinal and cross-sections of the fibers were observed under a microscope and differences are shown in a diagram. Miscellaneous tests such as an identification dye, a flame, a Lieberman-Storch and a chlorine test were also carried out. A flow sheet has been drawn up to show how the synthetic fibers can be separated and identified by means of specific reagents that will dissolve only one of the fibers.

YARNS E 2

Instrument measures drafting forces

W. T. Waters (North Carolina State College School of Textiles). *Textile Ind. 119:* 134-137 (April, 1955).

The Draftometer is a combination mechanical and electronic instrument which measures the drafting forces in sliver and roving. Its principal

use thus far has been in determining the effect on drafting properties of the finishes applied to synthetic staple fibers. Photograph, diagram, graphs.

A note on friction between yarn and package

D. G. Padfield (Wool Industries Research Assoc.). *J. Textile Inst. 46:* T71-T77 (February, 1955).

During unwinding, a moving yarn may rub over the surface of a package before flying out into the balloon proper. The friction forces will cause a modification of the unwinding tension, so it is of interest to estimate their effect. In this paper a simple relation between yarn-package coefficient of friction and easily measurable quantities is derived. The formula is applied to measurements made on two yarns and the resulting information is presented graphically. 3 references.

Aid to improved quality

Henry Baer and Co. Ltd., Switzerland. *Skinner's Silk and Rayon Record 29:* 280-281 (March, 1955).

The HBC thread tension feeler may be held in the hand in measuring the tension of a yarn. The device is briefly described. Photographs.

Tension analyzer

R. D. Heffelfinger (American Viscose Corp.). *Modern Textiles Mag. 36:* 59,62,100,116 (April, 1955).

The Brush tension analyzer, developed by the American Viscose Corp., is intended specifically for the man in the mill. Its development, features and uses are described and illustrated.

Detection of periodic yarn defects by means of harmonic analysis

H. Breny. *Ann. Sci. Textile Belges 2, No. 3:* 7-22 (1954); *in French.* Through *Brit. Cotton Ind. Research Assoc. 35:* 178 (1955).

The principles on which the harmonic analysis of yarn irregularity is based at present are discussed and a number of known formulae are reviewed. The formulae are applied to a theoretical yarn model, and preliminary conclusions are drawn from their interpretation. It may be interesting to check their validity experimentally.

Note on the Uster regularity tester

D. de Meulemeester, G. Raes and G. de Clercq. *Ann. Sci. Textile Belges 2, No. 3:* 53-60 (1954); *in French.* Through *Brit. Cotton Ind. Research Assoc. 35:* 178 (1955).

Characteristics of the Uster apparatus and testing conditions are described, and the results obtained by the integrator or by analysis of the diagram given by the recorder are compared with those obtained by weighing yarn pieces of a predetermined length. It was found that, under the test conditions indicated, there is a good agreement between the results given by the integrator and those derived from the diagram; these results are higher by approximately 2 per cent than those obtained by the weighing method.

Yarn control by means of the Uster tester

V. Levi. *Industrie Textile:* 775-780 (November, 1954); *in French.* Through *Brit. Cotton Ind. Research Assoc. 35:* 146 (1955).

The Uster-Zellweger yarn regularity tester is described and certain disadvantages in its industrial utilization (sensitivity to humidity and handling) are pointed out.

FABRICS E 3

Differential measurements of reflectance

C. A. Lermond and L. B. Rogers (Massachusetts Institute of Technology). *Anal. Chem. 27:* 340-346 (March, 1955).

Reflectance has been explored as a possible means of making direct analyses of difficulty soluble solid mixtures and of substances on chromatograms. For dyed samples of cloth and yarn, differential spectrophotometric measurements of reflectance make possible the more precise determination of small differences in regions of low reflectance. The results can also be interpreted readily in terms familiar to persons interested in defining color differences. A similar study on synthetic mixtures of pigments has shown that analytically useful data can usually be obtained with samples in powdered form. 17 references.

The effect of duration of test on the recorded strength of a range of cloths

G. E. Chadwick (British Cotton Ind. Research Assoc.). *(Letter to the editor). J. Textile Inst. 46:* T148-T152 (February, 1955)

Evaluation of the chemical wear of cellulosic fabrics during industrial laundering

A. Parisot and A. Fresco. *Bull. Inst. Textile France No. 48:* 7-48 (August, 1954); *in French.* Through *Brit. Cotton Ind. Research Assoc. 35:* 179 (1955).

It is shown that there is a close relationship between the mechanical properties of fabrics degraded by chemical means (repeated laundering) and the degree of polymerization of the cellulosic component of the fabric, the D.P. varying as a hyperbolic function of the number of washings while the rate of degradation, for a given fabric

and washing process, remains constant. There is also a close correlation between the degree of polymerization of cellulose and both wet and dry bursting strengths in dependence of the number of washings, the difference between wet and dry bursting strength being a measure of the degree of wear of the fabric subjected to laundering. Thus, knowing the type of fiber used, the initial D. P. of the cellulose, the composition and weave of the fabric, and the washing and bleaching conditions, it is possible to predict the durability of the fabric and the degree of wear that it will show after a certain number of washings.

A modification of the AATCC flammability tester

E. Freedman and D. Chaucer (Bureau of Standards, R. H. Macy & Co., Inc.). *Am. Dyestuff Reptr. 44:* 229-230 (March 28, 1955).

An electric system of timing is described and illustrated which is positive in action and permits increased accuracy of speed of testing. This circuit was installed for approximately $75, excluding labor.

OTHER E 4

Practical application of the so-called method of differential dyeing of viscose

N. Iwanow, R. Schneider and J. Meybeck. *Bull. Inst. Textile France No. 48:* 49-59 (August, 1954); *in French.* Through *Brit. Cotton Ind. Research Assoc. 35:* 178 (1955).

The method of differential dyeing of viscose has been initially developed for studying the causes of "barriness" in dyed viscose fabrics. In this article, the authors give two examples to show that there is no simple and direct relation between the average depths of penetration in viscose samples dyed by this method and those dyed by a given industrial method. The differences in penetration indicate only differences in the quality of the viscoses examined. The penetration curves obtained by differential dyeing, however, can serve for studying the behavior of viscoses during all stages of processing.

The science of color

K. H. Ferber (Allied Chemical & Dye Corp.). *Dyestuffs 41:* 1-8 (March, 1955).

Methods used by the scientist and the practical colorist to measure color are reviewed. 22 references.

INDUSTRIAL ENGINEERING F

Aids to productivity in the woolen industry

L. Bellwood. *Textile Mfr. 81:* 139-141 (March, 1955).

Some remarks on machinery cleaning arrangements, lighting, heating and ventilation requirements, transport systems and bonus schemes.

WASTE DISPOSAL F 2

Bibliography on textile waste

AATCC. Stream-Sanitation Committee of Piedmont Section. *Am. Dyestuff Reptr. 44:* P168-P190 (March 14, 1955).

This annotated bibliography on past and current research and on methods of textile waste treatment is divided into six sections: (1) textile waste properties (24 references); (2) waste reduction and prevention (38 references); waste treatment (119 references); (4) legal requirements (11 references); (5) economics of treatment and disposal (6 references); (6) industrial waste control, general (38 references).

QUALITY CONTROL F 3

Modern mill controls. Part 3. Setting up the control laboratory

N. L. Enrick. *Modern Textiles Mag. 36:* 62,68, 72-74 (March, 1955).

Discusses the physical aspects of the control laboratory set-up such as layouts, work-place arrangements, and sampling trucks, using illustrative diagrams and photographs. In addition, the paperwork aspects are demonstrated, showing specimen pages from the laboratory operating manuals, such as test procedures, testing standards and tolerances, processing data, machinery characteristics, and waste control calculations.

A worsted mill management program that paid off

Textile Age 19: 6-19 (March, 1955).

Outline of a complete program of quality control, labor cost reduction, machinery replacement, waste control, and quality bonus system as installed by Leach Textiles, Ltd., Huntingdon, Quebec, with the aid of Werner Textile Consultants.

OTHER F 4

The cotton waste industry

Platts Bull. 8, No. 9: 286-295 (1955).

Sources and classes of waste are discussed, together with the uses of cotton waste.

PATENT CHECKLIST

U. S. Patents may be obtained from the U. S. Patent Office, Washington 25, D. C., for 25 cents per copy. Photostatic copies of foreign patents are available. Charges for these photostats are based on the number of pages in the patent.

YARN PRODUCTION B

Antistatic treatment of artificial staple fibers

H. Paul (to Courtaulds Ltd). BP 662 542, December 5, 1951. Through *BCIRA 35:* 126 (1955).

Releasable pipe connections for suction end-catchers

Sulzer Frères Soc. Anon (Switzerland). BP 717 389, October 27, 1954. Through *BCIRA 35:* 127 (1955).

Separating dust from air

S. Hall and A. Meyers (to Hall and Kay Ltd). BP 717 324, October 27, 1954. Through *BCIRA 35:* 148 (1955).

Method of doffing

E. J. Griset, Jr. (to American Enka Corp.). USP 2 706 089, April 12, 1955.

Support flat for rayon cops

U. H. Despres (to Keyes Fibre Co.). USP 2 704 600, March 22, 1955.

Thread advancing reel

T. S. Mayner (to Industrial Rayon Corp.). USP 2 706 035, April 12, 1955.

Thread cutting and inspection machine

J. P. Gamache (to Tricot Somerset Inc.). USP 2 705 827, April 12, 1955.

OPENING, PICKING, FIBER PREPARATION B 1

System for separating animal fibers from vegetable residues with the use of high frequency currents

S. Carbonetto (Italy). USP 2 705 347, April 5, 1955.

CARDING AND COMBING B 2

Belt drive for carding engines

Soc. Alsacienne de Constructions Mécaniques (France). BP 716 993, October 20, 1954. Through *BCIRA 35:* 126 (1955).

DRAWING AND ROVING B 3

Sliver lapping machines

Constructions Mécaniques Lorraines (France). BP 717 719, November 3, 1954. Through *BCIRA 35:* 126 (1955).

Control for the operation of roving frames

C. R. Harris (to Pneumafil Corp.). USP 2 704 430, March 22, 1955.

Device for applying yielding pressure to a top roll in a drawing frame

T. J. Giemza (to Whitin Machine Works). USP 2 705 817, April 12, 1955.

Drawing of slivers

R. Kern and W. Pauen (Germany). USP 2 705 348, April 5, 1955.

Long-draft apparatus

W. Macdonald. USP 2 704 863, March 29, 1955.

Weighting apparatus for drafting rolls

F. Kalwaites (to Whitin Machine Works). USP 2 705 818, April 12, 1955.

SPINNING, WINDING, TWISTING B 4

Balloon-restricting device for ring spinning frames

Officine Meccaniche Cigardi Soc. Anon. (Italy). BP 717 283, October 27, 1954. Through *BCIRA 35:* 126 (1955).

Bolster cases for spinning machines

B. B. Dearden (to Johnson and Hartley Ltd). BP 716 955, October 20, 1954. Through *BCIRA 35:* 127 (1955).

Composite yarn process for giving increased bulk to synthetic continuous filament threads

Filatures et Moulinages de l'Ardecha Fimola (France). BP 717 461, October 27, 1954. Through *BCIRA 35:* 128 (1955).

Driving arrangements for ring spinning frames

F. B. Holt, G. P. F. Newlands and A. Cotton

(to Metropolitan-Vickers Electrical Co. Ltd). BP 716 704, October 13, 1954. Through *BCIRA 35:* 128 (1955).

Switch means for automatically changing the drive of a ring frame from one speed to another

F. B. Holt, G. P. F. Newlands and A. Cotton (to Metropolitan-Vickers Electrical Co. Ltd). BP 716 705, 715, October 13, 1954. Through *BCIRA 35:* 128 (1955).

Pot spinning device

R. Ragan. BP 717 546, October 27, 1954. Through *BCIRA 35:* 127 (1955).

Spinning ring assemblies for ring spinning and twisting machines

G. F. Albrecht. BP 717 200, October 20, 1954. Through *BCIRA 35:* 127 (1955).

Twisting head

F. Hadwich (Germany). BP 717 521, October 27, 1954. Through *BCIRA 35:* 127 (1955).

Method of converting spinning rolls

K. P. Swanson. USP 2 704 393, March 22, 1955.

Spindle for spinning and twisting machines

F. A. Navarro (Spain). USP 2 705 395, April 5, 1955.

Textile spindle

J. H. Gray and H. H. Wormser (to Universal Winding Co.). USP 2 704 946, March 29, 1955.

Apparatus for winding a thread on a revolving bobbin and then on a second revolving empty bobbin

H. L. Blok (to Algemene Kunstzijde Unie, N. V., Netherlands). USP 2 706 090, April 12, 1955.

Apparatus for winding yarn

R. H. Roughsedge (to Celanese Corp.). USP 2 705 362, April 5, 1955.

Detecting mechanism for stop motions for winding machines

W. W. Egee and J. W. Bennett (to Fletcher Works Inc.). USP 2 705 110, March 29, 1955.

Device for doubling or cabling textile yarns

P. de Halleux (to Doutors Societe Anonyme Holding). USP 2 703 958, March 15, 1955.

Tube take-up for two-for-one twister

E. K. Bauer and J. F. Sprute (to American Viscose Corp.). USP 2 705 598, April 5, 1955.

Winder head on spoolers for conical cross-wound bobbins

W. Eheim (Switzerland). USP 2 704 638, March 22, 1955.

FABRIC PRODUCTION C

Bottom weight carrier for braiding machines

A. J. Groh. USP 2 704 958, March 29, 1955.

Method of continuous seaming of pile floor coverings

A. T. Dildilian and K. M. Wood (to Bigelow-Sanford Carpet Co., Inc.). USP 2 705 693, April 5, 1955.

WARPING, SLASHING, YARN PREPARATION C 1

Apparatus for counting or removing faults from yarn during winding

J. A. Matthew and J. L. Spencer-Smith (to Linen Industry Research Assoc.). BP 716 370, October 6, 1954. Through *BCIRA 35:* 130 (1955).

Yarn clearer with which the criterion of yarn defect selection is the product of the diameter and length of the defect

J. Doll (France). BP 717 907, November 3, 1954. Through *BCIRA 35:* 130 (1955).

Warp beaming machines

A. W. Bonser and J. Macaulay (to Fine Spinners and Doublers Ltd). BP 717 186, October 20, 1954. Through *BCIRA 35:* 131 (1955).

Liquid applicator for running yarn

J. F. Greenwalt, V. G. McGraw and F. F. Richardson (to American Viscose Corp.). USP 2 705 881, April 12, 1955.

Bobbin holder

F. Lambach (to Robert Reiner, Inc.). USP 2 704 643, March 22, 1955.

Warp beam construction

S. A. Harris and C. A. Sinquefield (to Briggs-Shaffner Co.). USP 2 704 642, March 22, 1955.

Warp beam truck

J. F. Talley and J. E. Coursey (to United Merchants and Manufacturers, Inc.). USP 2 706 056, April 12, 1955.

Warping frame

E. Nadeau. USP 2 705 361, April 5, 1955.

WEAVING C 2

Apparatus for ensuring a positive return motion for the horizontal card-operated needles in a jacquard wirework

J. Ashworth and A. Firth (to J. T. Hardaker Ltd). BP 716 991, October 20, 1954. Through *BCIRA 35:* 132 (1955).

Centrifugal electric switches for circular looms

R. N. Low and J. Catry (to Fairwest (U.K.) Ltd). BP 716 717, October 13, 1954. Through *BCIRA 35:* 131 (1955).

Circular looms

R. N. Low and J. Catry) to Fairwest (U.K.) Ltd). BP 716 430, October 6, 1954. Through *BCIRA 35:* 131 (1955).

Circular looms

R. N. Low and J. Catry) to Fairwest (U.K.) Ltd). BP 717 175, October 20, 1954. Through *BCIRA 35:* 131 (1955).

Circular looms

Saint Frères (France). BP 717 875, November 3, 1954. Through *BCIRA 35:* 131 (1955).

Delivery of woven fabric from a circular loom

Qualitex-Société Dunod and Cie (France). BP 717 922, November 3, 1954. Through *BCIRA 35:* 132 (1955).

Device on automatic looms for the removal of the piece of thread between the shuttle and the selvage during the change of the bobbin

Adolphe Saurer Soc. Anon. (Switzerland). BP 716 459, October 6, 1954. Through *BCIRA 35:* 133 (1955).

Jacquard card operating mechanism for looms for weaving

L. Tatlock (to Lucas Textiles Ltd. and Tatlock Engineering Co. Ltd), BP 716 808, October 13, 1954. Through *BCIRA 35:* 133 (1955).

Loom stop motion

Drummondville Cotton Co. Ltd. (Canada). BP 716 936, October 20, 1954. Through *BCIRA 35:* 133 (1955).

Pickers for looms

Adriano Gardella Soc. Coll. & F. Llo (Italy). BP 717 190, October 20, 1954. Through *BCIRA 35:* 133 (1955).

Recharging shuttles of a circular loom

Qualitex-Société Dunod and Cie (France). BP 717 837, November 3, 1954. Through *BCIRA 35:* 132 (1955).

Shedding motion for shuttleless looms

C. H. Baddeley. BP 716 878, October 13, 1954. Through *BCIRA 35:* 132 (1955).

Warp protector for looms

Neumunstersche Maschinen- und Apparatebau GmbH (Germany). BP 717 400, October 27, 1954 Through *BCIRA 35:* 133 (1955).

Weft stop motion for shuttleless looms

C. H. Baddeley. BP 717 584, October 27, 1954. Through *BCIRA 35:* 132 (1955).

Weft trapping mechanism for shuttleless looms

C. H. Baddeley. BP 717 583, October 27, 1954. Through *BCIRA 35:* 132 (1955).

Yarn brake for an Axminster loom

S. F. Townsend (to John Crossley and Sons Ltd). BP 716 760, October 13, 1954. Through *BCIRA 35:* 131 (1955).

Buffer device especially adapted for absorbing the blows of the pickers in textile looms

I. Bombardieri (to Origin Rapp SpA, Italy). USP 2 705 975, April 12, 1955.

Devices for locking the draw hooks in dobbies

H. H. Staubli (to Gebr. Staubli & Co., Switzerland). USP 2 705 506, April 5, 1955.

Filling carrier for shuttleless looms

M. R. Flamand (to Draper Corp.). USP 2 705 508, April 5, 1955.

Filling feeler

P. A. Lee and R. H. Lee. USP 2 705 026, March 29, 1955.

Flexible beat-up means for loom

J. E. Hollis, Jr. (to Crompton and Knowles Loom Works). USP 2 705 976, April 12, 1955.

Gear train arrangement in the driving mechanism of weaving looms

J. Picanol (Belgium). USP 2 705 504, April 5, 1955.

Harness mechanism for looms

C. G. Moon (to Draper Corp.). USP 2 705 507, April 5, 1955.

Harness motion for looms of the helical spring type

E. F. Bahan. USP 2 704 559, March 22, 1955.

Inside selvage motion for use in looms

B. Masson, M. Thibault and A. Berquier (to Societe d'Applications Generale d'Electricite & de Mecanique). USP 2 704 558, March 22, 1955.

Loom for producing fancy leno weave

I. O. Moberg (to Fieldcrest Mills, Inc.). USP 2 704 557, March 22, 1955.

Loom picker and picker stick

G. C. Bell. USP 2 705 025, March 29, 1955.

Loom reed

L. A. Matthews (to Excelsior Loom Reed Works, Inc.). USP 2 705 977, April 12, 1955.

Pile wire and process of weaving pile fabrics

F. W. E. Hoeselbarth (to C. H. Masland and Sons). USP 2 705 974, April 12, 1955.

Transmission for dobby looms

C. O. Jansen (Germany). USP 2 705 023, March 29, 1955.

Warp letting-off in textile looms

J. Beer (to Ph. Kurtz Eisenwerk, Germany). USP 2 705 024, March 29, 1955.

Weaving loom frames and reinforcing cross-members

J. Picanol (Belgium). USP 2 705 022, March 29, 1955.

Weaving looms, particularly dobbies

H. H. Staubli (to Gebr. Staubli & Co., Switzerland). USP 2 705 505, April 5, 1955.

KNITTING C 3

Yarn detecting mechanism for knitting machine stop motions

C. S. Martin and A. E. Cooke (Trip-Lite Ltd). BP 716 549, October 6, 1954. Through *BCIRA 35:* 133 (1955).

Circular knitting machine

P. L. Thurston (to Interwoven Stocking Co.). USP 2 705 878, April 12, 1955.

Flat knitting machine with 2 pairs of needle beds

W. V. Mehnert (to VEB Fahrradwerk Elite Diamant VVB IFA, Germany). USP 2 705 408, April 5, 1955.

Hosiery

G. Friedlander (to the Duplan Corp.). USP 2 705 411, April 5, 1955.

Knitting machine and method of knitting

B. T. R. Reymes-Cole, D. N. R. Reymes-Cole and J. M. R. Reymes-Cole (to the Kendall Co.). USP 2 703 970, March 15, 1955.

Knitting machine selector-chain operating mechanism

J. Sirmay and R. E. Zeruneith (to the Ordnance Gauge Co.). USP 2 705 410, April 5, 1955.

Mechanism for driving the thread guide of a full-fashioned knitting machine

C. Scheller (to Gebr. Boehringer GmbH). USP 2 705 879, April 12, 1955.

Stop-motion attachment for a multiple-thread knitting machine

L. Baumber (to Korma Mills Ltd., New Zealand). USP 2 704 445, March 22, 1955.

Yarn carrier for full fashioned knitting machines

A. Friedmann and W. S. Stufflet (to Karl Lieberknecht, Inc.). USP 2 705 409, April 5, 1955.

FABRICS C 4

Apparatus for forming pile fabric

E. D. Lacey (to Russell-Lacey Mfg. Co.). USP 2 705 465, April 5, 1955.

Knit fabric with elastic wrap yarns to form a raised design

J. L. Bausher (to Infants Socks, Inc.). USP 2 703 971, March 15, 1955.

Method of manufacturing woven pile fabrics

R. Davies (to Carpet Trades Ltd). USP 2 704 091, March 15, 1955.

Method for producing non-woven glass fabric

J. C. Draper, J. H. Plummer and E. L. Clayton (to Glass Fibers, Inc.). USP 2 704 734, March 22, 1955.

Laterally extensible non-woven fabric

I. S. Ness, R. V. Lints and D. R. Petterson (to Chicopee Mfg. Corp.). USP 2 705 686, April 5, 1955.

Laterally extensible polyoriented non-woven fabric and method of producing same

D. R. Petterson (to Chicopee Mfr. Corp.). USP 2 705 692, April 5, 1955.

Nonwoven fabric

I. S. Ness, R. V. Lints and D. R. Petterson (to Chicopee Mfg. Corp.). USP 2 705 688, April 5, 1955.

Nonwoven fabric

D. R. Petterson and I. S. Ness (to Chicopee Mfr. Corp.). USP 2 705 687, April 5, 1955.

Semi-porous coated cloth and articles made therefrom

H. Glatt. USP 2 704 730, March 22, 1955.

Rug rolling machines

C. P. Dyken. USP 2 706 094, April 12, 1955.

FINISHING AND CHEMICAL PROCESSING D

Method of making printed felt base floor coverings

J. E. Hazeltine, Jr. and H. A. Gelzenlichter (to Armstrong Cork Co.). USP 2 705 683, April, 5, 1955.

CHEMICAL PROCESSES D 1

Adhesive composition to secure pile fiber to a sheet of vinyl chloride polymer or co-polymer

K. G. Burridge and J. Jones-Hinton (to Dunlop Rubber Co. Ltd). BP 716 311, October 6, 1954. Through *BCIRA 35:* 142 (1955).

Coated knitted sheet material

P. G. Noble (to Imperial Chemical Industries Ltd). BP 717 602, October 27, 1954. Through *BCIRA 35:* 142 (1955).

Felt substitute consisting of adhesively-bound fibers

L. Beckett. BP 717 042, October 20, 1954. Through *BCIRA 35:* 142 (1955).

Machines for washing, dry cleaning or garment dyeing

E. J. Howlett (to Isaac Braithwaite and Son Engineers Ltd). BP 717 974, November 3, 1954. Through *BCIRA 35:* 147 (1955).

Pile fibers adhesively attached to a fabric backing

T. E. H. Gray (to Dunlop Rubber Co. Ltd). BP 717 161, October 20, 1954. Through *BCIRA 35:* 143 (1955).

Plastic articles reinforced with fibrous materials comprising aromatic polyesters

T. J. Meyrick and E. G. Parry (to Imperial Chemical Industries Ltd). BP 714 502, September 1, 1954. Through *BCIRA 35:* 142 (1955).

Process for treating fibrous material with synthetic resins

Ciba Ltd. (Switzerland). BP 716 952, October 20, 1954. Through *BCIRA 35:* 142 (1955).

Rendering fibrous materials hydrophobic

Badische Anilin- & Soda-Fabrik (Germany). BP 717 624, October 27, 1954. Through *BCIRA 35:* 143 (1955).

Treatment of polyamide or polyester textiles

H. W. Peters (to British Nylon Spinners Ltd). BP 717 698, November 3, 1954. Through *BCIRA 35:* 143 (1955).

Wear resistance of fibrous materials increased by impregnating with a silicic acid ester

Société pour le Traitement et l'Amélioration des Tissus (France). BP 717 144, October 20, 1954. Through *BCIRA 35:* 141 (1955).

Zinc thiocyanate as a fungicidal agent for textiles and paper

Deutsche Gold- und Silber-Scheideanstalt (Germany). BP 717 557, October 27, 1954. Through *BCIRA 35:* 143 (1955).

Felting resistant treatment for woolen materials

C. A. Fetscher (to Cluett, Peabody & Co. Inc.). USP 2 704 729, March 22, 1955.

Method of uniformly applying a water-repellent to absorptive fabrics

R. B. Trusler and B. Sutton (to Davies-Young Soap Co.). USP 2 704 731, March 22, 1955.

Pile fabric and method of stabilizing

S. M. Kinzinger and J. P. Malik (to George W. Borg Corp.). USP 2 705 880, April 12, 1955.

Process for increasing the fluffiness of feathers

P. A. Florio (to Alexander Smith, Inc.). USP 2 706 143, April 12, 1955.

Sizing compositions and method of using the same

R. D. Sullivan (to Shell Development Co.). USP 2 705 205, March 29, 1955.

Treatment of dyed cellulose esters and ethers to inhibit gas fading

W. H. Von Glahn and L. N. Stanley (to General Aniline and Film Corp.). USP 2 706 142, April 12, 1955.

DYEING AND PRINTING D 2

Accelerating a continuous dyeing process

R. S. E. Hannay and W. Kilby (to Standfast Dyers and Printers Ltd). BP 716 708, October 13, 1954. Through *BCIRA 35:* 138 (1955).

Faults in fabric printing made visible before development with indicator of the phthalein series

M. Binder (to Compagnie Francaise des Matières Colorantes). BP 717 252, October 27, 1954. Through *BCIRA 35:* 141 (1955).

Dyeing cellulose acetate with vat or sulfur dyestuffs

W. Kilby and W. H. Hindle (to Standfast Dyers and Printers Ltd). BP 716 954, October 20, 1954. Through *BCIRA 35:* 138 (1955).

Dyeing nylon

A. J. I. Harding (to Maifoss Ltd). BP 716 637, October 13, 1954. Through *BCIRA 35:* 139 (1955).

Dyeing process for wool, Ardil and nylon

M. R. Fox, C. Preston and I. Seltzer (to Imperial Chemical Industries Ltd). BP 716 575, October 6, 1954. Through *BCIRA 35: 139* (1955).

Dyeing technicque using molten metal

W. Kilby (to Standfast Dyers and Printers Ltd). BP 717 059, October 20, 1954. Through *BCIRA 35:* 138 (1955).

Process for stripping or lightening dyeings

Ciba Ltd. (Switzerland). BP 718 010, November 3, 1954. Through *BCIRA 35:* 139 (1955).

Treatment of dyestuffs on the anthraquinone series

Celanese Corp. BP 717 011, October 20, 1954. Through *BCIRA 35:* 138 (1955).

Method of coloring cellulosic materials by hot embossing

K. Wille (to American Cyanamid Co.). USP 2 705 682, April 5, 1955.

Printing with indigoid vat dyestuffs

M. H. Fleysher (to Allied Chemical & Dye Corp.). USP 2 705 668, April 5, 1955.

Screen printing machines

E. Walsh, Jr. (to Eugene Landesman). USP 2 704 510, March 22, 1955.

MECHANICAL PROCESSES D 3

Pin chains and guides for stenters

K. S. Laurie (to John Dalglish and Sons Ltd). BP 717 670, November 3, 1954. Through *BCIRA 35:* 143 (1955).

Process and machine for treating and shearing knitted fabric sleeves having a nap

A. W. Schmidt (to Great Lakes Mills, Inc.). USP 2 704 877, March 29, 1955.

TESTING AND MEASUREMENT E

YARNS E 2

Means for evaluating evenness record graphs

F. P. Strother (to West Point Mfg. Co.). USP 2 704 633, March 22, 1955.

Strand drafting and tension measuring apparatus

F. P. Strother, E. H. Granberry and G. Manning (to West Point Mfg. Co.). USP 2 705 423, April 5, 1955.

FABRICS E 3

Fabric strip measuring mechanism

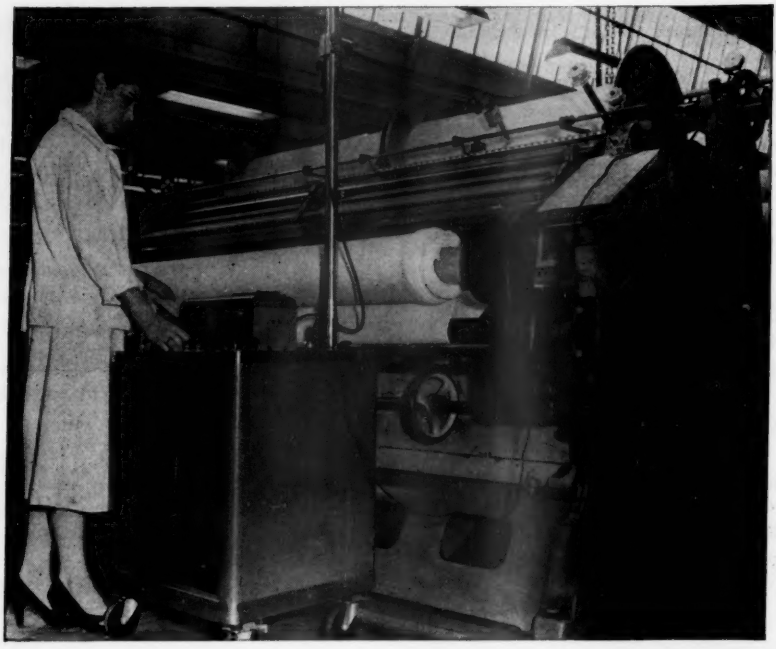
S. Blake (to Enterprise-Moakler Co. Inc.). USP 2 703 933, March 15, 1955.

OTHER E 4

Absorbency measuring devices and wetting agent supply units

F. L. Barrett and H. Potter (to Bleachers Association Ltd). BP 717 315, October 27, 1954. Through *BCIRA 35:* 147 (1955).

BRUSH TEXTILE INSTRUMENTS



Brush Tension Analyzer helps American Viscose improve textile processing

This test setup on a tricot knitting machine at Avisco's Textile Research Dept. utilizes a Brush Analyzer to measure tension on viscose dull yarn. The Analyzer measures and permanently records on graph paper both static and dynamic tensions from 1/10 to 400 grams in filamentary materials.

Mounted on casters, the unit can be used in research, or easily rolled to various production machines. It improves quality control and reduces costs by indicating trouble spots due to improper tension. For information on how Brush Textile Instruments can help *you*, contact our Southeastern Office or write Brush Electronics Company, Dept. CC-5, 3405 Perkins Ave., Cleveland, 14 Ohio

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